

## **ABSTRACT OF THE DISCLOSURE**

Embodiments of the invention include a method and apparatus for manufacturing optical fiber. The optical fiber manufacturing method includes providing an optical fiber preform from which to draw optical fiber, rotating the optical fiber preform about its longitudinal axis as the preform is being passed through the heating zone of a draw furnace, and drawing optical fiber from the rotating preform. Rotating the optical fiber preform in a relatively moderate, controlled manner improves the uniformity of the optical fiber preform geometry as optical fiber is being drawn therefrom, which, in turn, reduces transmission loss and splicing loss in the drawn optical fiber. Rotation of the optical fiber preform is constant or variable, and occurs in one or both directions. Embodiments of the invention also include a method for manufacturing optical fiber in which the preform is rotated as it passes through the furnace and a spin is imparted on optical fiber drawn from the rotated preform. Embodiments of the invention improve overall optical fiber geometry by reducing optical fiber geometric deformities, PMD and their associated optical fiber transmission loss.